



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,158	01/16/2002	Hiroki Ota	8003-1001	3700

466 7590 04/18/2003

YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

LEROY, DAVID H

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/046,158

Applicant(s)

OTA ET AL.

Examiner

David H. LeRoy

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a)

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Kunio JP2000-192196

1. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunio.

JP2000-192196 (English Translation).

Kunio teaches a stainless Fe-C-Si based alloy consisting of, by weight %: 0.001-0.05% C; 0.05-1% Si; 0.05-2% Mn; 0.025% or less P; 0.01% or less S; 9-14% Cr; 3.1-7% Mo; 1-8% Ni; 0.5-7% Co; 0.001-0.1% Al; 0.05% or less N; 0.01% or less O; 0-5% Cu; 0-5% W and the remainder Fe and impurities (See Claim 1 of the Kunio translation). Kunio also teaches addition of elements selected from 0.001-0.5% V; 0.001-0.5% Nb; 0.001-0.5% Ti; 0.001-0.5% Zr to the above composition (See Claim 2 of Kunio translation).

2. With respect to Claim 1, Kunio's ranges overlap the ranges of, in mass %, from about 0.0015 to about 0.02% C, from about 0.0015 to about 0.02% N, from about 0.1 to about 1.0% Si, from about 0.1 to about 3.0% Mn, more than about 5% to less than about 10% Cr, from about 0.01 to about 3.0% Ni, about 0.1% or less Al, about 0.05% or less P, about 0.03% or less S, from about 0.01 to about 1.0% Co, and the balance Fe and impurities. Therefore, since the claimed ranges "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists. See In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), MPEP 2144.05.

Art Unit: 1742

3. The preamble of “for architectural and civil engineering structural elements “ in Claims 1-6, (see line 2 in the claims) is considered to be the intended use of the claimed alloy and is of no significance to claim construction, and therefore, it would have been given little patent weight. See MPEP 2111.02.

4. With respect to the claimed “high long-term corrosion resistance and high weld-zone toughness” in Claim 1 (last lines), because Kunio’s alloy is substantially the same as the claimed alloy, therefore, the claimed corrosion resistance and weld-zone toughness properties would have been highly expected to one of ordinary skill in the art. See In re Best 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.01.

5. With respect to %V and %W in Claim 2, Kunio’s ranges of , in wt. %, from 0.001-0.5% V (See translated Claim 2); and 0-5% W (See translated Claim 1) overlap the ranges of, in mass %, about 0.01 to about 0.5% V; and about 0.001 to about 0.05% W of the claimed invention. Therefore, since claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists (See MPEP 2144.05).

6. With respect to the Cr content in Claim 2, Kuno’s Cr content of 9 wt. % (See translated Claim 1 of Kuno) is close to the claimed Cr content of, in mass %, less than about 8%. Therefore, since the claimed ranges “are close enough that one skilled in the art would have expected them to have the same properties”, a prima facie case of obviousness exists (Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 Fed. Cir. 1985, See MPEP2144.05).

Art Unit: 1742

7. With respect to the “Z value” in Claim 2, Kuno does not disclose a “Z value”. However, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art. In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. Furthermore, for example, using 0.5 % Co, 0.001% V, and 0 % W of Kuno would result in a Z value of $[0.5+1.5(0.001)+4.8(0)] = [0.5+0.0015+0] = 0.5015$; which falls within the Z value range of 0.03 to 1.5 of the claimed invention. Therefore, the claimed “Z value” would have been expected in Kuno, since the content of Co, V and W of Kuno overlap the claimed contents of Co, V and W, respectively.

8. With respect to the Cr content in Claim 3, Kuno’s Cr content of 9 wt. % (See translated Claim 1 of Kuno) is close to the Cr content of the claimed invention of, in mass %, less than about 7.5%. Therefore, since the claimed ranges “are close enough that one skilled in the art would have expected them to have the same properties”, a prima facie case of obviousness exists (Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 Fed. Cir. 1985, See MPEP2144.05).

9. With respect to the W content in Claim 3, Kuno’s ranges of, in wt. %, 0-5% W (See translated Claim 1) overlap the ranges of, in mass %, about 0.005 to about 0.03% W of the claimed invention. Therefore, since claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists (See MPEP 2144.05).

Art Unit: 1742

10. With respect to Cu in Claims 4-6, Kunio's range of, in wt. %, 0-5% Cu overlap the range of, in mass %, about 3.0% or less of Cu of the claimed invention. Therefore, since claimed ranges "overlap or lie inside ranges disclosed by the prior art", a prima facie case of obviousness exists (See MPEP 2144.05).

11. With respect to the Mo content in Claims 4-6, Kuno's Mo content of 3.1-7% Mo (See Claim 1 of Kunio) is close to the Mo content of the claimed invention of, in mass %, about 3.0% Mo. Therefore, since the claimed ranges "are close enough that one skilled in the art would have expected them to have the same properties", a prima facie case of obviousness exists (Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 Fed. Cir. 1985, See MPEP2144.05).

Kunio JP2000-192196 in view of Fujita et al. U.S. Patent No. 6,123,897

12. Claims 7-10 are rejected over Kunio JP2000-192196 in view of Fujita et al. U.S. Patent No. 6,123,897.

Kunio is discussed in paragraph 1 above. Kunio does not teach inclusion of, in mass %, about 0.0002 to about 0.0030 % Boron in Kunio's alloy.

Fujita et al. teach a Cr-Ni-Co steel containing 0.002-0.010 wt.% B (See Claim 7). Fujita et al. teach (See Col. 6 lines 5-10) that B improves creep ruptures strength; and, if too much B is added, toughness is lowered. Moreover, Fujita et al.'s range of B overlaps the range of B in the claimed invention.

Therefore, it would have been obvious to one of ordinary skill in the art to have added 0.0025 B into Kunio's alloy as taught by Fujita et al. with the expectation of improving creep rupture strength of the alloy as disclosed by Fujita et al. (See Col. 6 lines 5-10).

Conclusion

13. The prior art of record and not relied upon is considered pertinent to applicant's disclosure.

Kirby et al. U.S. Patent No. 3,663, 208 relates to a Chromium-Nickel-Copper alloy steel.

Meyer U.S. Patent No. 4,919,885 relates to a Chromium-Nickel alloy steel.

Miyazaki et al. U.S. Patent No. 5,350,559 relates to a Chromium- Nickel-Cobalt alloy steel.


Inquiries

Any inquiry concerning this communication should be directed to David H. LeRoy at telephone number 703-305-5793. The examiner can normally be reached 7a.m.-5:30 p.m. Monday-Thursday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached at 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

DHL

4/9/03

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700